**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1-5. (canceled)

6. (Previously presented) A method to determine clinical outcome of a breast cancer afflicted subject if treated with an antiestrogen agent against breast cancer, said method comprising assaying a sample of breast cancer cells from said subject for the ratio of HoxB13 and IL17BR expression levels.

7. (Previously presented) The method of claim 6 wherein said expression level(s) are indicative of the probability of recurrence of cancer via metastasis or survival outcome.

8. (Original) The method of claim 6 wherein said antiestrogen agent against breast cancer is selected from a selective estrogen receptor modulator (SERM), selective estrogen receptor downregulator (SERD), or aromatase inhibitor (AI).

9. (Original) The method of claim 6 wherein said sample of breast cancer cells is ER+.

10. (Previously presented) The method of claim 6 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of nucleic acids prepared by mRNA amplification from said sample of breast cancer cells.

11. (Previously presented) The method of claim 6 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of nucleic acids from said sample of breast cancer cells by quantitative PCR.

12. (Previously presented) The method of claim 6 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of HoxB13 and IL17BR proteins or proteolytic fragments of said proteins.

13. (Original) The method of claim 12 wherein said detection of proteins or proteolytic fragments thereof comprises detection thereof in the blood of said subject or in breast cancer epithelial cells enriched from the blood of said subject.

14. (Previously presented) A method of determining prognosis of a subject having breast cancer if treated with an antiestrogen agent against breast cancer, or of a subject afflicted with breast cancer and treated with an antiestrogen agent against breast cancer, said method comprising:

assaying for the ratio of HoxB13 and IL17BR expression levels in a breast cancer cell sample from said subject.

15. (Previously presented) The method of claim 14 wherein said expression level(s) are indicative of the probability of recurrence of cancer via metastasis or survival outcome.

16. (Original) The method of claim 14 wherein said antiestrogen agent against breast cancer is selected from a selective estrogen receptor modulator (SERM), selective estrogen receptor downregulator (SERD), or aromatase inhibitor (AI).

17. (Original) The method of claim 14 wherein said sample of breast cancer cells is ER+.

18. (Previously presented) The method of claim 14 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of nucleic acids prepared by mRNA amplification from said sample of breast cancer cells.

19. (Previously presented) The method of claim 14 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of nucleic acids from said sample of breast cancer cells by quantitative PCR.

20. (Previously presented) The method of claim 14 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of HoxB13 and IL17BR proteins or proteolytic fragments of said proteins.

21. (Original) The method of claim 20 wherein said detection of proteins or proteolytic fragments thereof comprises detection thereof in the blood of said subject or in breast cancer epithelial cells enriched from the blood of said subject.

22. (Original) The method of claim 14 wherein said sample is obtained by a minimally invasive technique or selected from core biopsy, excisional biopsy, a ductal lavage sample, a fine needle aspiration sample, or cells microdissected from said sample.

23. (Previously presented) A method to determine therapeutic treatment for a breast cancer patient based upon said patient's expected response or lack of response to treatment with an antiestrogen agent against breast cancer, said method comprising

determining an expected response or non-response to treatment with an antiestrogen agent against breast cancer for said patient by assaying a sample of breast cancer cells from said patient for the ratio of HoxB13 and IL17BR expression levels according to claim 6; and

selecting the appropriate treatment for a patient with such a clinical outcome.

24. (Previously presented) The method of claim 23 wherein said expression level(s) are indicative of the probability of recurrence of cancer via metastasis or survival outcome.

25. (Original) The method of claim 24 wherein said antiestrogen agent against breast cancer is selected from a selective estrogen receptor modulator (SERM), selective estrogen receptor downregulator (SERD), or aromatase inhibitor (AI).

26. (Original) The method of claim 24 wherein said sample of breast cancer cells is ER+.

27. (Previously presented) The method of claim 24 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of nucleic acids prepared by mRNA amplification from said sample of breast cancer cells.

28. (Previously presented) The method of claim 24 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of nucleic acids from said sample of breast cancer cells by quantitative PCR.

29. (Previously presented) The method of claim 24 wherein said assaying for the expression levels of HoxB13 and IL17BR comprises detection of HoxB13 and IL17BR proteins or proteolytic fragments of said proteins.

30. (Original) The method of claim 29 wherein said detection of proteins or proteolytic fragments thereof comprises detection thereof in the blood of said subject or in breast cancer epithelial cells enriched from the blood of said subject.

31. (Original) The method of claim 24 wherein said sample is obtained by a minimally invasive technique or selected from core biopsy, excisional biopsy, a ductal lavage sample, a fine needle aspiration sample, or cells microdissected from said sample.

32. (Previously presented) A method to determine clinical outcome of a human subject having breast cancer if treated with an antiestrogen agent against breast cancer, said method comprising assaying a sample of breast cells from said subject for expression of HoxB13 or IL17BR sequences or optionally another sequence the expression of which is correlated with their expression in breast cancer cells

wherein underexpression of HOXB13 sequences is indicative of responsiveness, and overexpression of IL17BR and/or CACNA1D sequences is indicative of non-responsiveness, to treatment with tamoxifen or another an antiestrogen agent against breast cancer.

33. (Original) The method of claim 32 wherein said antiestrogen agent against breast cancer is selected from a selective estrogen receptor modulator (SERM), selective estrogen receptor downregulator (SERD), or aromatase inhibitor (AI).

34. (Previously presented) The method of claim 32 wherein said sample of breast cancer cells is ER+ or is obtained by a minimally invasive technique or selected from core biopsy, excisional biopsy, a ductal lavage sample, a fine needle aspiration sample, or cells microdissected from said sample.

35. (Original) The method of claim 32 wherein said assaying for expression comprises detection of nucleic acids prepared by mRNA amplification from said sample of breast cancer cells or detection of nucleic acids from said sample of breast cancer cells by quantitative PCR.

36. (Previously presented) The method of claim 32 wherein said assaying for expression comprises detection of proteins encoded by said sequences or proteolytic fragments of said proteins.

37. (Original) The method of claim 36 wherein said detection of proteins or proteolytic fragments thereof comprises detection thereof in the blood of said subject or in breast cancer epithelial cells enriched from the blood of said subject.

38. (Previously presented) The method of claim 32 wherein said assaying is by hybridization to a polynucleotide comprising sequences of at least 15 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of human HoxB13 or IL17BR sequences.

39-41. (canceled)

42. (Currently amended) The method of claim 32 wherein said assaying for expression comprises assaying for methylation of HoxB13 or IL17BR nucleic acid sequences.

43-48. (canceled)

49. (Previously presented) A method to determine clinical outcome of a human subject having breast cancer if treated with an antiestrogen agent against breast cancer, said method comprising assaying a sample of breast cells from said subject for expression of an IL17BR sequence selected from SEQ ID NOs: 1, 2, 3, or 8, or 32-34.

50. (Previously presented) A method to determine clinical outcome of a human subject having breast cancer if treated with an antiestrogen agent against breast cancer, said method comprising assaying a sample of breast cells from said subject for expression of a HoxB13 sequence selected from SEQ ID NOS: 6, 7, 10, 11-31, 35 or 37.

51. (canceled)

52. (Previously presented) The method of claim 14 wherein said assaying is for expression of a HoxB13 sequence selected from SEQ ID NOS: 6, 7, 10, 11-31, 35 or 37.

53. (Previously presented) The method of claim 14 wherein said assaying is for expression of an IL17BR sequence selected from SEQ ID NOs: 1, 2, 3, or 8, or 32-34.

54. (Previously presented) The method of claim 23 wherein said assaying is for expression of a HoxB13 sequence selected from SEQ ID NOS: 6, 7, 10, 11-31, 35 or 37.

55. (Previously presented) The method of claim 23 wherein said assaying is for expression of an IL17BR sequence selected from SEQ ID NOs: 1, 2, 3, or 8, or 32-34.

56. (Previously presented) The method of claim 32 wherein said assaying is for expression of a HoxB13 sequence selected from SEQ ID NOS: 6, 7, 10, 11-31, 35 or 37.

57. (Previously presented) The method of claim 32 wherein said assaying is for expression of an IL17BR sequence selected from SEQ ID NOs: 1, 2, 3, or 8, or 32-34.

58. (Previously presented) The method of claim 6 wherein said sample is obtained by a minimally invasive technique or selected from core biopsy, excisional biopsy, a ductal lavage sample, a fine needle aspiration sample, or cells microdissected from said sample.

59. (Previously presented) The method of claim 32 wherein said expression level(s) are indicative of the probability of recurrence of cancer via metastasis or survival outcome.

60. (Previously presented) The method of claim 32 wherein said sample of breast cancer cells is ER+.

61. (Previously presented) The method of claim 6 wherein said assaying is by hybridization to a polynucleotide comprising sequences of at least 15 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of human HoxB13 or IL17BR sequences.

62. (Previously presented) The method of claim 14 wherein said assaying is by hybridization to a polynucleotide comprising sequences of at least 15 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of human HoxB13 or IL17BR sequences.

63. (Previously presented) The method of claim 23 wherein said assaying is by hybridization to a polynucleotide comprising sequences of at least 15 nucleotides from the 3' untranslated region, the coding region, or the 5' untranslated region, of human HoxB13 or IL17BR sequences.

64. (Currently amended) The method of claim 6 wherein said assaying for expression comprises assaying for methylation of HoxB13 or IL17BR nucleic acid sequences.

65. (Currently amended) The method of claim 14 wherein said assaying for expression comprises assaying for methylation of HoxB13 or IL17BR nucleic acid sequences.

66. (Currently amended) The method of claim 23 wherein said assaying for expression comprises assaying for methylation of HoxB13 or IL17BR nucleic acid sequences.